

Paso 2 factor comun por agrupacion de terminos

$$\textcircled{1} a^2 + ab + ax + bx = (a^2 + ab) + (ax + bx)$$

$$a(a+b) + x(a+b)$$

$$(a+b)(a+x)$$

$$\textcircled{2} 4a^3 - 1 - a^2 + 4a = (4a^3 + 4a) - (a^2 + 1)$$

$$4a(a^2 + 1) - (a^2 + 1)$$

$$(a^2 + 1)(4a - 1)$$

$$\textcircled{3} 4am^2 - 12amn - m^2 + 3n = (4am^2 - m^2) - (12amn - 3n)$$

$$m^2(4am - 1) - 3n(4am - 1)$$

$$(4am - 1)(m^2 - 3n)$$

$$\textcircled{4} 3ax - 2by - 2bx - 6a + 3ay + 4b = (3ax + 2bx) + (3ay - 2by) - (6a - 4b)$$

$$x(3a + 2b) + y(3a - 2b) - 2(3a - 2b)$$

$$(3a - 2b)(x + y - 2)$$

$$\textcircled{5} a^3 + a + a^2 + 1 + x^2 + a^2x^2 = (a^3 + a) + (a^2 + 1) + (a^2x^2 + x^2)$$

$$a(a^2 + 1) + (a^2 + 1) + x^2(a^2 + 1)$$

$$(a^2 + 1)(a + 1 + x^2)$$